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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/808,694 | 03/14/2001 | Zezhang Hou | AUD1P005 | 5136 |
| 22434 | 7590 | 02/09/2005 | EXAMINER | |
| BEYER WEAVER & THOMAS LLP P.O. BOX 70250 OAKLAND, CA 94612-0250 | | | MICHALSKI, JUSTIN I | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2644 | |

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/808,694

Applicant(s)

HOU, ZEZHANG

Examiner

Justin Michalski

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2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-9 is/are allowed.
- 6) ☒ Claim(s) 1,10,12-14,17 and 20 is/are rejected.
- 7) ☒ Claim(s) 2,11,15,16,18 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see remarks filed 12 July 2004, with respect to the rejection(s) of claim(s) 1, 2, and 10-14 under 35 USC 102(b) and 1-4, 12-16 and 18 under 35 USC 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Thompson.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 10, 12-14, 17, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Thompson (US Patent 6,654,468).

Regarding Claim 1, Thompson discloses an adaptive directional sound processing system, comprising: at least first and second microphones spaced apart by a distance (Fig. 6, microphones 14 and 12), said first microphones (14) producing a first electronic sound signal and said second microphone (12) producing a second electronic sound signal; means for processing the second electronic sound signal to adaptively

produce a compensation (Col. 1, lines 12-16) scaling amount (18) that compensates for sensitivity differences between said first and second microphones (42); a scaling circuit operatively connected to said means for scaling and said second microphone (34), said scaling circuit operates to scale the second electronic sound signal in accordance with the compensation scaling amount; and a subtraction circuit (50) operatively connected to said scaling circuit and said first microphone, said subtraction circuit producing an output difference signal by subtracting the scaled second electronic sound signal from the first electronic sound signal.

Regarding Claim 10, Thompson discloses a hearing aid device having an adaptive directional sound processing, said hearing aid device comprising; at least first and second microphones spaced apart by a distance (Fig. 6, microphones 14 and 12), said first microphone (14) producing a first electronic sound signal and said second microphone (12) producing a second electronic sound signal; sensitivity difference detection circuitry (42) operatively connected to said first and second microphones, said sensitivity difference detection circuitry adaptively produces a compensation scaling amount (18) corresponding to sensitivity differences between said first and second microphones; a scaling circuit (34) operatively connected to said sensitivity difference detection circuitry and said second microphone, said scaling circuit operates to scale the second electronic sound signal in accordance with the compensation scaling amount; and a subtraction circuit (50) operatively connected to said scaling circuit and said first microphone, said subtraction circuit producing an output difference signal by

subtracting the scaled second electronic sound signal from the first electronic sound signal.

Regarding Claim 12, Thompson discloses a method for adaptively measuring and compensating for acoustical differences between sound signals picked up by microphones, said method comprising: (a) receiving first and second electronic sound signals from first (14) and second (12) microphones, respectively; (b) determining a compensation scaling amount (18) that compensates for acoustic differences with respect to the first and second microphones; (c) scaling (42) the second electronic sound signal in accordance with the compensation scaling amount; and (d) producing a differential electronic sound signal by subtracting (50) the scaled second electronic sound signal from the first electronic sound signal.

Regarding Claim 13, Thompson further discloses the acoustic differences pertain to at least differences in microphone sensitivity (Col. 1, lines 12-16).

Regarding Claim 14, Thompson further discloses determining (b) comprises; (b1) measuring a sensitivity difference between the first and second microphones while in use (Fig 6); and (b2) producing the compensation scaling amount based on the sensitivity difference (48).

Regarding claim 17, Thompson further discloses said measuring (b1) of the sensitivity difference is performed using Root-Mean-square (RMS) averages of the first and second sound signals (Fig. 4, RMS detectors 26 and 28).

Regarding Claim 20, Thompson further discloses the microphones are provided

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within a hearing aid device, and wherein said method is performed by the hearing aid device (Col. 1, lines 19-27; Col. 3, lines 65-67).

Allowable Subject Matter

4. Claims 3-9 allowed.
5. Claims 2, 11, 15, 16, 18, and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Michalski whose telephone number is (703)305-5598. The examiner can normally be reached on M-F 7-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (703)305-4040. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



SINH TRAN
SUPERVISORY PATENT EXAMINER

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SINH TRAN
SUPERVISORY PATENT EXAMINER

JIM